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ABSTRACT

An investigation of structural aspects of television messages focused on the interaction between structure and content in the creation of meaning. A preliminary study using quantitative data analyzed 137 television news stories from the commercial networks on the fighting in El Salvador to determine how structural elements were used by newsworkers, those decisions being a product of different codes. The codes studied included editing (cuts, dissolves, wipes); camera work (angle, movement, distance); and visual/aural combination, such as a voice-over. Another concern was to determine if these elements were used consistently in the same way, or if they changed over the 5-year period covered by the news stories. Preliminary results found both similarities and differences among the three networks for camera movement. The study then moved from quantitative analysis of the use of formal elements within the news reports to a qualitative examination of how these characteristics interact with the content they convey. Semiotic theory, particularly the concepts of denotation and connotation, was used as a framework to analyze this interaction. This study is the first part of a complete analysis of the function of structural elements and their effect on meaning. Seven references are listed. (LMM)

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Structure As A Source of Meaning Within AudioVisual Messages

Denise Kervin
Dallas January 21, 1984

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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In my presentation, I will be discussing work done for my dissertation on structural aspects of television messages. I will provide a brief overview of the theory that underlies my study and a slightly less brief overview of my methodology and research tools, which I believe will be of interest to anyone doing observational research. I will conclude with a mention of preliminary results from my study and recommendations for future research.

The main focus of my work is the interaction between structure and content in the creation of meaning. Current theory in our field holds that, ideally, the medium chosen to teach must match with the information and task to be learned, and with the student doing the learning. It is the structural characteristics of a medium, its particular formal means of communicating, that helps to decide if it is used. Thus, for example, if film or video is chosen, that decision should be based in large part on their structural elements, that is, on their ability to show motion, juxtapose images, portray action from various angles and distances, and so on.

Gavriel Salomon has done very important work in this area, found particularly in his book, The Interaction of Media, Cognition, and Learning. Salomon's own experiments and others that he draws upon show that the structural characteristics of a medium interact with the content of a message and ultimately affect meaning. For example, Salomon found that the structural element within film and video whereby the camera zooms into a detail within a larger whole conveyed different information than the same content presented using other formal characteristics, such as cutting from the whole image directly to the detail.

Salomon concludes that structural characteristics can act as both carriers of information and as information in their own right. Calvin Pryluck is also interested in the form of media in his book, Sources of Meaning in Motion Picture and Television. He concludes that meaning derives, first, from the intrinsic properties of what is recorded by a camera --the thing in the world; second, meaning comes from the ways in which that thing is photographed, in other words, the use of structural elements in its presentation; and, third, meaning derives from the interaction between this content and form.

An example of the interaction between structure, content, and meaning should make this clearer. Imagine a film designed to develop young children's self-esteem and self-image. Depending in part upon how the content is structurally presented, the film may or may not achieve its goal. For instance, if the children within the film were always photographed from a high angle, as they are normally seen by adults, the aim of improving the self-esteem of young viewers might be jeopardized. That is, while the film aims to make the audience

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of children feel like important individuals in their own right, the particular formal element of a high angle is implicitly showing the children within the film as small and insignificant compared with adults. Thus, a structural choice within the presentation of the film may relay a message to the young viewers that conflicts with what the film wants to say.

This example points up both the importance of studying the structure of messages and how structure affects meaning. Research into how form actually affects meaning, however, has neither been extensive, nor in complete agreement. Most studies on formal elements such as camera angles do indicate an interaction between structure and content in visuals. Unfortunately, such research has only looked at single, isolated elements without regard to the other structural characteristics at work in messages.

In my research I wanted to examine certain of the most important structural elements within televised messages, both as they were individually used, and as they combined together. A second concern was to determine if these elements were used consistently in the same way, or if they changed over time. The consistent use of formal elements within the presentation of the same content is, I believe, fundamental to the impact of that structure. In the example of the film to build self-esteem, the strength of the negative message being sent to a young audience would seem to depend upon whether that message was reinforced by structural characteristics other than the camera angle, by whether similar or different messages were presented within other sources, and by the length of time over which the children were exposed to the negative message.

This examination of structural elements formed the first part of my study, and was based on quantitative data recorded during an observational analysis of videotaped messages. The second part of my study was to see how that form interacted with the content of those messages. This part of my analysis could not be done using a quantitative methodology, but only through a qualitative examination of how the form and content interacted to create meaning. For both the quantitative and qualitative sections of my study I relied on the research mentioned earlier. For the most part, however, my theoretical base and methodology derived from semiotics, which I will discuss shortly.

As my sample I chose five years of television news coverage by all three commercial networks on the fighting in El Salvador. The news stories in my sample totaled 137, with a total time of 2 hours and 48 minutes. The news reports were compiled by the Vanderbilt University Television News Archive. This choice of sample material came from an interest in the formal aspects of television, particularly television news reporting, and from the ability of such a sample to provide a series of messages on the same general topic spanning a considerable length of time. This allowed an investigation of how structural elements were used at any one time and over a five year period.

Turning now to semiotics, I can provide only a very brief introduction to this complicated subject. The concern of semiotics is signs and the codes used to organize those signs. A sign, according to Charles Peirce, an early semiotician, is anything that "stands to somebody for something in some respect or capacity." (quoted in Hawkes, 1977: 126) Thus, a word is a sign, as is a picture. Television messages are composed of a multitude of different signs,

organized through various codes. Codes act something like a grammar within a medium. For example, within film and video there exist codes related to editing, as in the use of a dissolve to indicate that time has passed between two shots. Codes are involved both in how signs are put together to make sense and in how they are interpreted. My study focused on the initial part of this communication process, on how structural elements were used by newsworkers, those decisions being a product of different codes, and how that usage interacted with the content to affect meaning.

The first section of my study, then, was to observe and record formal characteristics in a sample of news stories, primarily in the visual track. I was mainly interested in how the structure of visuals affects meaning; the structure of the aural track would be studied only in how it interescted with the images. As to the particular formal characteristics chosen, I relied on information about general newswork routines and on film theory and practice. The elements were grouped under the code that determines their usage. For example, it is a code of editing that decides whether two images will be joined by a cut or a wipe. Certain elements were further clarified, such as that pans were to the left or right, and tilts were up or down. A partial list of the main formal elements studied follows:

Editing (cuts, dissolves, wipes)
Camera Work:
- Angle (high, low, eye-level)
- Movement (pan, zoom, track, tilt)
- Distance from camera to subject

Visual/Aural combination (e.g. a voice-over)

How these formal characteristics were used within my sample of news stories was one focus of inquiry. Equally important was how these elements interacted with the content of the reports to produce meaning, requiring that a certain amount of information about what went on in the stories be recorded. Using the shot as my basic unit of analysis, I collected data about the main subject, action, and location of each shot. The particular categories within subject, action, and location came from my own interests and from what was found in the sample. I viewed approximately one-third of the news stories to determine if the particular structural elements and content categories chosen were actually being used. Minor adjustments were made on the basis of what I found.

Turning now to the actual recording of the data from the videotaped stories, it is obvious that I wanted a great deal of information. I also wanted to record it in the same sequence and temporal order as it occurred in the reports. For example, I wanted to be able to record that the anchor spoke for ten seconds, then a reporter began a voice-over, while four civilians carried a coffin in a five second shot, and so on.

To accomplish such data collection by hand would have been prohibitively time-consuming. Luckily, from work done on video narratives by Professor Ann Becker at the University of Wisconsin-Madison, I was aware of a set of tools that can be used to efficiently and with amazing detail record observational data. These tools were developed by Gordon Stephenson, also at Madison, initially for field observation of animals. Information about a situation is entered onto a portable keyboard that sends it via a short cable to a cassette tape recorder. When filled, these tapes are decoded by a computer where the data is checked for

errors and undergoes statistical analysis. Stephenson also had plans to adapt his computer programs for use on an IBM personal computer and also to substitute a portable microcomputer using micro-cassettes for the more bulky keyboard and cassette recorder.

Before taking any data, the researcher must carefully define the situation to be observed, recording that information in a computer program called Plexyn. This is a complex process; put very simply, the researcher must decide on the dynamics within the observational situation, the logic that underlies it, and relay that information to Plexyn. Plexyn then uses that information to check the recorded data for errors, giving a fairly detailed description of the mistakes it encounters.

In the process of recording data, the researcher follows a form of entry similar to the structure of a sentence in English, that is: subject-action-object-location. Thus, someone, or something, performs an action, often in relation to another person or thing, and in a particular place. Besides these basic pieces of information, the researcher can also include the positioning of the subject and object in relation to the observer and to each other, and modifiers can be added for even more data.

The data is entered in brief letter and number codes whenever an action occurs, or the situation under observation changes. For example, following are examples from my study of coded entries and their English equivalents:

1R=4@4	The anchor reports to the camera in a medium shot (includes the head and torso)
4M=2@4J	A government soldier moves right in a medium shot within the jungle
7%6 ST=6@7VS	Five civilians stand facing left on a village street, in a long shot (includes the entire body)

The data gathered need not be as dense as the above and definition of the categories is also very flexible. For instance, I designated the news camera as a subject and structural elements such as pans and zooms as actions. It does take some time to learn the use of the keyboard, as well as the coding procedure. The benefits lie in the amount and richness of the data one is able to record quickly and in having an error-detector for that data as well.

Once data is gathered, the tapes are decoded on a computer and the resulting output contains descriptions of any errors made, which can then be edited out. Finally, a statistical program is used, offering such information as total frequencies and durations, as well as high, low, and average duration, and the percentage of the total time taken up by each variable. The data collected can also be analyzed using other computer programs, such as SPSS.

I am currently in the process of working through the enormous amount of data from my observational study. To touch on only one structural element analyzed, camera movement, I have found both similarities and differences among the three networks. For example, ABC has the camera either pan, zoom, track, or tilt every nine and one-half seconds, while CBS, and NBC use camera movement about every ten seconds. More specifically, ABC and NBC use the same number of zooms,

while CBS uses more. How these zooms are used within the news stories is, however, similar across the three networks. Generally, a zoom in focuses on a subject of a shot, or on a symbolic detail, such as a bombed building or a leftist banner. Zooming out involves the opposite process as the camera first focuses on a detail and then widens out to place it into context. The basic question of my study is what effect does a structural element such as a zoom in or out have on the particular content it conveyes.

Thus, my study moves from a quantitative analysis of the use of formal elements within the news reports to a qualitative examination of how these characteristics interact with the content they convey. It is in this interaction between form and content that, as Pryluck concludes, meaning arises. To analyze this interaction I relied upon semiotic theory, particularly on the concepts of denotation and connotation.

These twin concepts involve how form and meaning operate within messages. Very simply put, every message has two levels of meaning, the denotative and the connotative, which are inextricably intertwined for receivers of messages. The denotative level includes the overt form, content, and meaning of a message. For example, a picture of a child on the denotative level means simply that particular child, at that particular point in time. Connotative meanings derive from the denotative level, but are more diffuse and covert. Connotations result from the interaction of form and content on the denotative level. For example, if the picture of the child is taken from a high angle, the connotations will be different from those in a picture of the same child taken at eye-level. The primary theorist in semiotics to advance the idea of connotations was Roland Barthes, although the general concept of implicit meaning is widely held within media criticism.

The leap from statistical data drawn from observation to interpretation of implicit meanings may seem a fairly precarious one. Within semiotic theory, however, it is not only justifiable, but necessary to examine both levels of meaning that go to make up the total meaning of a message. Semiotic theory holds that these two levels are inseparable, are two levels of the same phenomenon and therefore must both be studied. My study assumes that examining messages both quantitatively and qualitatively is more complete and fruitful than using either methodology alone, offering a richer analysis of the interaction of form, content, and meaning.

In conclusion, I would like to point out that my study is only the first part of a truly complete analysis of how structural elements function and their effect on meaning. It is also necessary to study audience reaction to these elements and, in doing so, attempt to take into account all levels of meaning inherent in messages. In addition, a concern for the implicit meanings within media as a function of form is not the province of theorists and researchers alone. If, as I have argued, meaning is affected by the interaction of content and form, then we as educators must be as aware of the form of a message as we are of its content.

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